

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING SIGNAL WITH INTERCONNECT AT THE INTERSECTION OF MD 124 (MIDCOUNTRY HIGHWAY) AND GOSHEN ROAD IN MONTGOMERY COUNTY. INSTALLATION OF ACCESSIBLE PEDESTRIAN SIGNALS AND COUNTDOWN PEDESTRIAN SIGNAL HEADS IS PROPOSED ALONG THE SOUTH AND WEST LEGS OF THE INTERSECTION. MODIFICATION OF THE EXISTING PEDESTRIAN RAMPS IS PROPOSED TO MEET CURRENT ADA REQUIREMENTS.

MD 124 IS ASSUMED TO RUN IN AN NORTH/SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA EIGHT (8) PHASE, SEMI-TRAFFIC-ACTUATED MODE. THERE WILL BE NO CHANGE TO THE INTERSECTIONS OPERATION. THE MD 124 THROUGH MOVEMENTS OPERATE CONCURRENTLY. NORTHBOUND AND SOUTHBOUND MD 124 MOVEMENTS HAVE AN EXCLUSIVE LEFT TURN PHASE. GOSHEN ROAD MOVEMENTS FEATURE EXCLUSIVE LEFT TURN PHASING. EXISTING PEDESTRIAN PHASE MOVEMENTS SHALL REMAIN FOR THE SOUTH AND WEST LEGS.

APS OPERATION

FOR MD 124 (MIDCOUNTRY HIGHWAY)

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS MIDCOUNTRY AT GOSHEN, WAIT"

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR GOSHEN ROAD

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS GOSHEN AT MIDCOUNTRY, WAIT"

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

Mr. Brian Young
District Engineer
Phone: 301-513-7311

Ms. Anyesha Mackherjee
Assistant District Engineer - Traffic (Montgomery County)
Phone: 301-513-7498

Mr. Victor Grafton
District Utility Engineer
Phone: 301-513-7350

Mr. Tom Fountain
Assistant District Engineer - Maintenance
Phone: 301-513-7304

Mr. Duane Bernard & Kevin Nowak
Assistant District Engineer - Construction
Phone: 301-513-7385

THE CONTACT PERSONS FOR THE OFFICE OF TRAFFIC AND SAFETY ARE AS FOLLOWS:

Ms. Corren Johnson
Chief, Traffic Operations Division
Phone: 410-787-7650

Mr. Ed Rodenhizer
Chief, Signal Operations
Phone: 710-787-7650

Mr. Eugene Bailey
Chief, Sign Operations
Phone: 410-787-7670

Mr. Mike Stocker
Signal Shop Supply Officer
Phone: 410-787-7696

THE CONTACT PERSONS FOR MONTGOMERY COUNTY ARE AS FOLLOWS:

Mr. Robert Ricketts
Montgomery County Signal Operations Manager
Phone: 301-279-1291

Mr. Kamal Hamud
Montgomery County TMC Center
Phone: 240-777-8761

The Power Company Representative is:
Potomac Electric Power Company
Mr. Paul Wilson
201 West Gude Drive
Rockville, Maryland 20850
Phone: 301-548-4332

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

CATEGORY NO	QUANTITY	DESCRIPTION
900000	1 EA	CONTROLLER CABINET, SIZE "S" W/CTRL. VIDEO INT. 1-8 CAM
900000	1 EA	UPS EQUIPMENT FOR "S" CABINET
900000	25 SF	SHEET ALUMINUM GROUND MOUNTED SIGN
		1 EA M3-4 (24"x12")
		1 EA M1-5 (30"x24")
		1 EA M6-2 (21"x15")
		1 EA I-7(2) (24"x24")
		1 EA M6-1 (21"x15")
		2 EA DM-1(3) (18"x18")
		1 EA R4-7 (24"x30")

900000	178 SF	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN
		4 EA R10-3(1) (9"x15")
		2 EA M1-5(6) (48"x72")
		1 EA M1-5(6) (30"x48")
		4 EA R3-5(L) (30"x36")
		4 EA D-3(1) (VAR"x16") DUAL FACED

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

CATEGORY NO	QUANTITY	DESCRIPTION
100000	1 EA	MAINTENANCE OF TRAFFIC (PER INTERSECTION)
201032	2 CY	CLASS 2 EXCAVATION
203030	7 CY	TEST PIT EXCAVATION
585621	365 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	70 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585700	80 LF	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH
600000	160 LF	TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH
600000	60 LF	TYPE A CURB ANY HEIGHT OR DEPTH
655105	550 SF	5 INCH CONCRETE SIDEWALK
655120	60 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS
704345	6 SY	PLACING FURNISHED TOPSOIL 4 INCH DEPTH
708220	6 SY	TURFGRASS SOD ESTABLISHMENT
800000	1 EA	2-WIRE APS CENTRAL CONTROL UNIT
800000	2 EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH LED ROADWAY LUMINAIRE
800000	4 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	4 EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	6 EA	1P-BASED VIDEO DETECTION CAMERA & ANY LENGTH LEAD-IN CABLE
800000	4 EA	5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD
800000	1 EA	MAST ARM POLE & 38' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD
800000	2 EA	MAST ARM POLE & 50' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD
800000	1 EA	MAST ARM POLE & 70' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD
800000	1 EA	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)
800000	1 EA	INSTALL CONTROLLER AND CABINET BASE MOUNT (ANY SIZE) INCLUDING FAI FOUNDATION & GROUND ROD
800000	70 LF	12-PAIR COMMUNICATION CABLE (SELF-SUPPORTING OR JELLY-FILLED/UNDERGROUND)
800000	480 LF	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 12 AWG) (B.W.G) TYPE TC
800000	320 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED OR SLOTTED
800000	270 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
800000	110 LF	WOOD SIGN SUPPORTS UP TO 4 INCH X 6 INCH
800000	203 SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
800000	1 EA	THIRD PARTY CONCRETE TESTING (PER INTERSECTION)
802501	630 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
810022	160 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
811001	5 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
860284	57 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	575 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1660 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	2050 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

EQUIPMENT LIST 'C'

MONTGOMERY FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

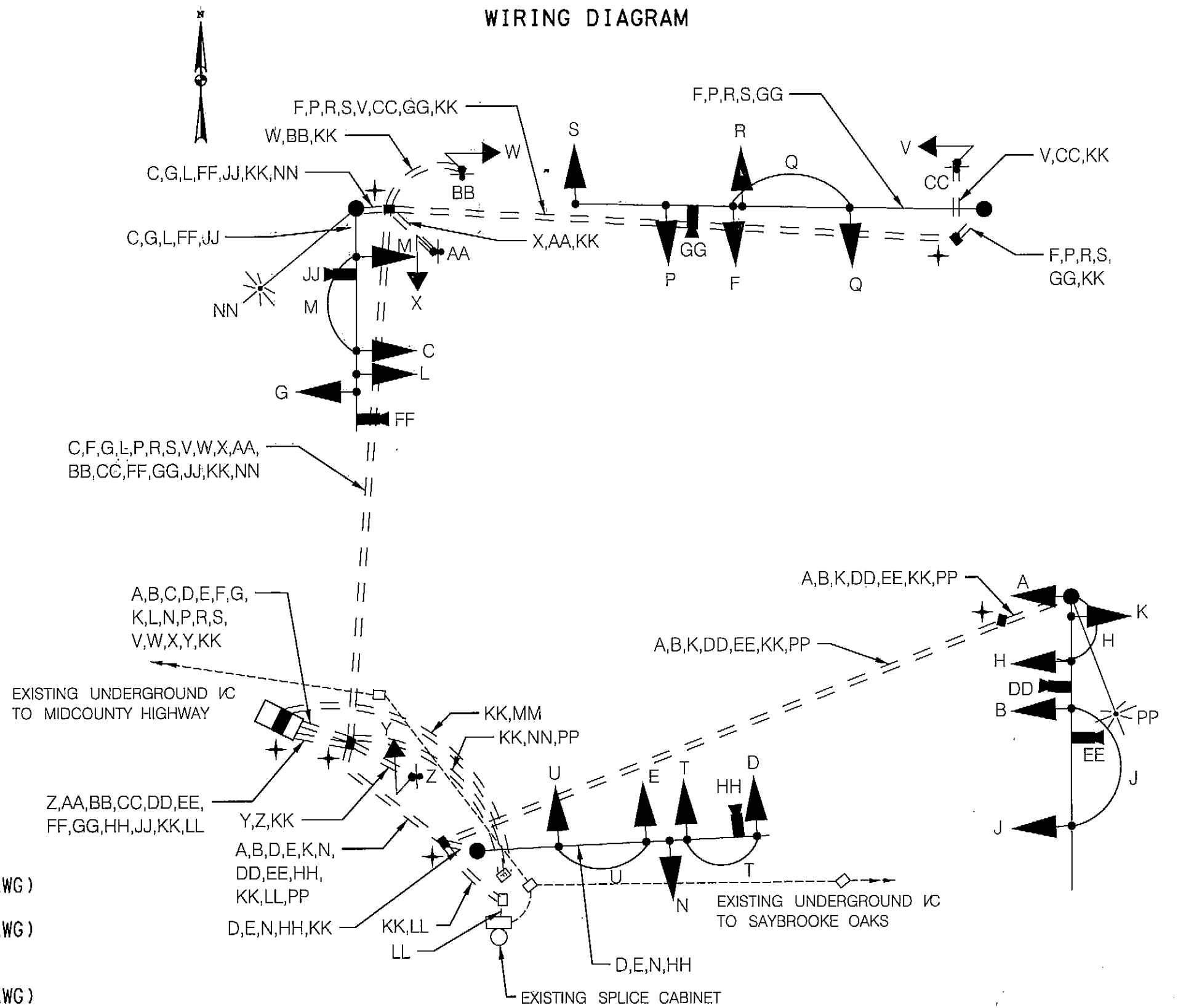
WIRING KEY

B,D,G,K,L,N,P,R,S	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
A,C,E,F,H,J,M, O,T,U,V,W,X,Y	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
Z,AA,BB,CC	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
DD,EE,FF,GG,HH,JJ	VIDEO DETECTION CAMERA LEAD IN CABLE
KK	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
LL	PROPOSED 12 PAIR INTERCONNECT CABLE
MM	ELECTRICAL CABLE - 3-1 CONDUCTOR NO. 8 AWG-THHN/THWN
NN,PP	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 12 AWG) TYPE TC
Q	EXISTING METERED SERVICE PEDESTAL
R	3/4 IN. X 10FT. GROUND ROD

PHASE CHART

PHASE CHART	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PHASE 1 + 5	-G	-G	-G	R	R	-G	-G	R	R	-R	-R	-R	-R	R	R	-R	-R	R	R	DW	DW	DW	DW
PHASE 1 + 5 CHANGE	-G	-G	-G	G	G	-R	-R	R	R	-R	-R	-R	-R	R	R	-R	-R	R	R	DW	DW	DW	DW
PHASE 1 CHANGE	-Y	-Y	-Y	G	G	-R	-R	R	R	-R	-R	-R	-R	R	R	-R	-R	R	R	DW	DW	DW	DW
PHASE 2 + 5	-R	-R	-R	R	R	-G	-G	G	G	-R	-R	-R	-R	R	R	-R	-R	R	R	DW	DW	DW	DW
PHASE 5 CHANGE	-R	-R	-R	R	R	-Y	-Y	G	G	-R	-R	-R	-R	R	R	-R	-R	R	R	DW	DW	DW	DW
PHASE 2 + 6	-R	-R	-R	G	G	-R	-R	G	G	-R	-R	-R	-R	R	R	-R	-R	R	R	WK	WK	DW	DW
PED CLEARANCE	-R	-R	-R	G	G	-R	-R	G	G	-R	-R	-R	-R	R	R	-R	-R	R	R	FL/DW	FL/DW	DW	DW
PHASE 2 + 6 CHANGE	-R	-R	-R	Y	Y	-R	-R	Y	Y	-R	-R	-R	-R	R	R	-R	-R	R	R	DW	DW	DW	DW
PHASE 3 + 7	-R	-R	-R	R	R	-R	-R	R	R	-G	-G	-G	-G	R	R	-G	-G	R	R	DW	DW	DW	DW
PHASE 3 + 7 CHANGE	-R	-R	-R	R	R	-R	-R	R	R	-G	-G	-G	-G	R	R	-G	-G	R	R	DW	DW	DW	DW
PHASE 3 + 8	-R	-R	-R	R	R	-R	-R	R	R	-R	-R	-R	-R	R	R	-G	-G	G	G	DW	DW	DW	DW
PHASE 3 CHANGE	-R	-R	-R	R	R	-R	-R	R	R	-R	-R	-R	-R	R	R	-Y	-Y	G	G	DW	DW	DW	DW
PHASE 4 + 7	-R	-R	-R	R	R	-R	-R	R	R	-G	-G	-G	-G	G	G	-R	-R	R	R	DW	DW	DW	DW
PHASE 7 CHANGE	-R	-R	-R	R	R	-R	-R	R	R	-Y	-Y	-Y	-Y	G	G	-R	-R	R	R	DW	DW	DW	DW
PHASE 4 + 8	-R	-R	-R	R	R	-R	-R	R	R	-Y	-Y	-Y	-Y	G	G	-R	-R	R	R	DW	DW	DW	DW
PHASE 4 ALT. + 8	-R	-R	-R	R	R	-R	-R	R	R	-Y	-Y	-Y	-Y	G	G	-R	-R	R	R	DW	DW	WK	WK
PED CLEARANCE	-R	-R	-R	R	R	-R	-R	R	R	-G	-G	-G	-G	R	R	-R	-R	G	G	DW	DW	FL/DW	FL/DW
PHASE 4 ALT.CHANGE	-R	-R	-R	R	R	-R	-R	R	R	-Y	-Y	-Y	-Y	R	R	-R	-R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/-	FL/-	FL/-	FL/Y	FL/Y	FL/-	FL/-	FL/Y	FL/Y	FL/-	FL/-	FL/-	FL/-	FL/R	FL/R	FL/-	FL/-	FL/R	FL/R	DARK	DARK	DARK	DARK

WIRING DIAGRAM



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 124 AT GOSHEN ROAD
GAITHERSBURG, MARYLAND

GENERAL INFORMATION SHEET

SCALE: 1" = 20'	ADVERTISED DATE: AUG 2013	CONTRACT NO.: XY2385185
DESIGNED BY: C.STRAYERN,TURNER	COUNTY: MONTGOMERY	
DRAWN BY: N.TURNER	LOGMILE: 15012404.92	
CHECKED BY: P.WESTCOTT	TIMS NO.: M005	
F.A.P. NO.: SEE TITLE SHEET	TOD NO.:	
TS NO. 2413E GI	DRAWING: SG-03 OF 03	SHEET NO. 3 OF 3



RJM ENGINEERING, INC.
CONSULTING ENGINEERS
ELLICOTT CITY, MARYLAND